



# Carbon dioxide a threat to oceans

By Anne M. Stark  
NEWSLINE STAFF WRITER

Lab researchers have found that continued release of carbon dioxide during the next several centuries would increase ocean acidity more rapidly than during the past 300 million years, resulting in damage to marine life.

The burning of coal, oil and gas release the greenhouse gas, carbon dioxide, into the atmosphere. Eventually, the ocean absorbs most of this carbon dioxide. CO<sub>2</sub> emissions since the Industrial Revolution have contributed greatly to global climate change, notably an increase in overall temperatures worldwide.

Oceanic absorption of CO<sub>2</sub> originally was viewed as beneficial because it removed greenhouse gases from the atmosphere. However, the most recent research, conducted by Livermore scientists Ken Caldeira and Michael Wickett, shows that continued emission to the atmosphere of CO<sub>2</sub> from fossil-fuel burning may make the oceans more acidic than they have been for millions of years — except for the extreme events in the



UNIVERSITY OF MISSISSIPPI

Lab scientists claim the release of carbon dioxide during the next few centuries will increase ocean acidity, harming coral reefs.

Earth's remote past, such as when the dinosaurs became extinct.

Previous studies have shown that marine organisms such as coral reefs, calcareous plankton and sea life with calcium carbonate skeletal material are likely to be harmed by increasing ocean acidification. Organisms living in the deep sea may be particularly sensitive to increased ocean acidification.

These results, titled "Anthropogenic

See OCEAN, page 8

# Anastasio unveils a new Institutional Information Technology Program

Director Michael Anastasio announced Thursday the establishment of the Institutional Information Technology (IIT) Program, effective Oct. 1.

The IIT Program will further develop a comprehensive institutional information technology (IT) strategy and aggregate key IT processes across the Laboratory. The key driver for this move is to create IT portfolio management based on strategic views of



Kenneth W. Neves

See PROGRAM, page 7

# A new information management system is adopted by the Lab

Dale Sprouse  
IBIS

The Laboratory will adopt on Oct. 1 a streamlined process, called Information Management, for review of unclassified documents generated by Lab authors.

Managed by the Innovative Business and Information Services Department (IBIS), the process gives authors and directorates a key role in assuring that the

See REVIEW, page 8

# Candidates vie for public office in City of Livermore

Last week's *Newsline* featured a photo of two candidates for public office in the city of Livermore. The individuals were visiting the Laboratory because they were not able to attend Community Leader Day in July 2003. In order to ensure that employees are aware of all candidates, here is a complete list of the individuals running for election and the offices they are seeking:

## Mayoral candidates

- Incumbent Mayor Marshall Kamena
- Councilman Tom Vargas

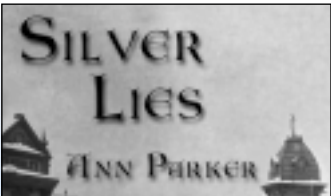
## Council candidates

- Incumbent Lorraine Dietrich
- Marjorie Leider
- Karen Pope
- Barbara Hickman
- Tom Bramell



HOME  
cooking

— Page 2



Mystery with  
silver lining

— Page 3



Survey results  
compute

— Page 4

# Researchers find similarities in galactic neighbors

By Anne M. Stark  
NEWSLINE STAFF WRITER

A Lab astronomer in collaboration with an international team of researchers have discovered that a neighboring galaxy — the Large Magellanic Cloud (LMC) — appears to have formed with an old stellar halo, similar to how our very own Milky Way formed.

The oldest and most metal-poor Milky Way stars form a spherical halo where they move about like atoms in a hot gas, which in turn, prompts two major formation scenarios of our galaxy:



A Lab astronomer determined that neighboring galaxy, the Large Magellanic Cloud, shown above, formed similar to the Milky Way.

extended hierarchical accretion and rapid collapse. RR Lyrae stars, which are found both in the Milky Way and the LMC, are excellent tracers of old and metal-poor populations.

By measuring the movement of 43 RR Lyrae stars in the inner regions of the LMC, the team determined that a moving hot, metal-poor, old halo also exists in the LMC, suggesting that the Milky Way and smaller, more irregular galaxies like the LMC have similar early formation histories.

The research, titled "Kinematic Evidence for an Old Stellar Halo in the Large Magellanic Cloud," is featured

See LMC, page 8





## LAB COMMUNITY NEWS

### Weekly Calendar

Technical Meeting Calendar, page 4

Tuesday  
**30**

The Work/Life Programs Office is sponsoring an **elder care workshop**, "Legal Issues of Aging," at noon, today in the Bldg. 543 auditorium. The workshop will emphasize the need to plan; understand the function of wills and trusts; understand power of attorney; review long term planning and options for asset preservation. For more information, contact Carol Sandoli, 2-9543, or sandoli1@llnl.gov.

...

The Benefits Office will continue the brown-bag series on how to enhance your financial security by participating in the **Tax-Deferred 403(b)** today from 12:15-1:15 p.m. in Bldg. 571, room 2000. Attendance is open and no pre-registration is required. Bring your lunch and your questions. For additional information about benefit services or events, see the Website [www.llnl.gov/llnl/02employment/benefits/benefits.htm](http://www.llnl.gov/llnl/02employment/benefits/benefits.htm).

...

The **Time Zone** will be closed today for its fiscal year-end inventory and will reopen on Wednesday, Oct. 1.

...

The LLESA **Apple Computer Networking Group** will meet tonight at 7 p.m. in the LLNL Discovery Center Press Room. Anyone with an interest in Apple computers is welcome to attend. For more information, contact Jim Branum, 2-6766.



The Lab will sponsor the 9th **Frontiers of Electron Microscopy in Materials Science Conference** (FEMMS2003) at the Claremont Resort and Spa in Berkeley, Oct. 5-10. FEMMS2003 is the premier conference focused on the application of electron microscopy in the field of materials science. It includes over 50 invited speakers who are the most influential scientists in the field. For additional information on the conference or the scheduled events, visit the Website, at [www.llnl.gov/llnl/02employment/benefits/benefits.htm](http://www.llnl.gov/llnl/02employment/benefits/benefits.htm)

...

The **Livermore Family Carnival & Fall Festival** will take place Saturday, Oct. 4, from noon until 4 p.m. at Arroyo Seco Elementary School, 5280 Irene Way, Livermore. The free festival will feature continuous live entertainment, carnival games and prizes, crafts for kids, a hay bale maze, fun food, gift basket raffles, face painting, free customized child I.D. kits, and activity and shopping booths, as well as a sale of used books, music, video and software at just 50 cents each. For more information go to <http://www.arroyosecoschool.org>.

...

A **representative from California Casualty Insurance** will be in the Benefits Office on Friday, Oct. 3. Appointments are required and may be scheduled by calling 2-9955. California Casualty offers individual rates to Lab employees by payroll deduction for auto and homeowner/renter insurance.



JACQUELINE MCBRIDE/NEWSLINE

Open Heart Kitchen volunteers Barbara Brown, Betty Calabrese, and Teresa DeHope are three of the more than 200 dedicated people who donate their time to help feed the hungry.

## HOME is where the kitchen is

By Alane Alchorn

IBIS

Now in its 29th year, the Lab's HOME (Helping Other More Effectively) Campaign encourages employees and supplemental labor to support local nonprofit agencies and organizations.

The Laboratory Services Directorate, sponsor of this year's campaign, has set the ambitious goal of \$1.5 million in donations and pledges.

Open Heart Kitchen (OHK), a unique local nonprofit, joins the HOME Campaign for the first time this year. OHK provides nutritious meals, without cost or qualification, to the hungry of the Tri-Valley. The OHK volunteers will prepare an expected 60,000 meals in 2003.

Volunteers cook and bake from scratch to provide meals at Asbury United Methodist Church in Livermore every Tuesday and Wednesday from noon to 6 p.m., and at Trinity Lutheran Church in Pleasanton on Fridays from 2-6 p.m. Guests, typically the Tri-Valley's working poor, dine in or take meals home to multi-generational family and neighbors.

Lynnewood United Methodist Church in Pleasanton generously allows OHK the run of the church's commercial kitchen, and culinary teams

maximize that opportunity. The OHK food services truck is equipped with warming ovens and refrigerators so that meals arrive ready for waiting guests.

Additionally, Tri-Valley youth and teens, organized through the Volunteer Center of Alameda County, pack almost 300 OHK lunches each week for students at Marilyn Avenue School in Livermore. Two lunches go home with each disadvantaged child on Friday afternoons, so the kids have healthy mid-day meals on Saturday and Sunday. On school days, a federal program subsidizes hot lunches.

Representatives from OHK will be on-site Wednesday Oct. 29, for the annual agency fair. HOME 2003 breaks from the starting blocks at lunchtime that day, with the annual Run for HOME. The agency fair will convene in the parking lots adjacent to the Southwest Gate. So, stop by to hear more about Open Heart Kitchen from those who know it best.

HOME donors can designate monthly payroll deductions or one-time contributions to favorite national or community causes such as Open Heart Kitchen. The OHK Website is [www.OpenHeartKitchen.org](http://www.OpenHeartKitchen.org) For information about the HOME Campaign, go to [www.llnl.gov/home2003](http://www.llnl.gov/home2003).

## Bike safety flier offers tips for riding on Lab site

To remind people of the keys to riding bicycles safely on site and elsewhere, a new flier has been developed and will be sent to all employees. The flier is to be distributed via Lab mail this week, and employees are urged to read it through.

The flier offers important safety tips on several aspects of riding, including riding on site and proper use of Lab bikes. A Web-based course is also offered that covers similar material in more detail and uses graphics to demonstrate safe bike usage, as well as hazards. The course, HS5420-W: Bicycle Safety, takes about 15 minutes. It can be found at <http://www-hctrain.llnl.gov/SET/HS5420/BS01.html>.



## Newsline

Newsline is published weekly by the Internal Communications Department, Public Affairs Office, Lawrence Livermore National Laboratory (LLNL), for Laboratory employees and retirees.

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Photographer: Jacqueline McBride

Designer: Julie Korhummel, 2-9709

Distribution: Mail Services at LLNL

Public Affairs Office: L-797 (Trailer 6527), LLNL, P.O. Box 808, Livermore, CA 94551-0808

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NEWS OF NOTE



Mystery writer Ann Parker tells truth behind ‘Silver Lies’

By Gordon Yano

NEWSLINE STAFF WRITER

If you picture first-time authors as slaving all day at their day jobs, then going home in the evening to take care of their families before burning the midnight oil to ply their prose...well, you’re right.

At least that’s the way it was for Lab employee Ann Parker, whose first novel, *Silver Lies*, is just hitting bookstores. A historical mystery set in the Colorado mining town of Leadville during the 1879 silver rush, *Silver Lies* was two years in the making, the words crafted during the scant free time between family and job.

And job, in Parker’s case, is...more writing.

A writer/editor in the Innovative Business and Information Services (IBIS) Department, Parker spends most of her daylight hours producing articles for the Lab’s *Science & Technology Review* magazine.

Both scientist and writer by training (dual majors in physics and English literature at UC Berkeley), Parker settled on science writing after college and quickly landed a job at the Lab, in Engineering. Her first assignment — editing an electrical connector pamphlet — made her rethink her choice of career. Parker persevered, though, and soon moved on to more creative projects. Twenty-five years later, she has worked on scores of high-visibility Lab communications projects.

However, fiction was in her blood. She wrote her first novel at age 12.

“I forget the title, but it was a mystery/adventure set in 1870 and featured a woman doctor,” Parker said. “I grew up reading mysteries and cowboy stories, and watching TV shows like *Gunsmoke*, so the character was a woman of the West, a rugged individualist.”

That book never made it to a publisher. “For some reason, I ripped it up one summer when I was home from college.”

Friends at the Lab and elsewhere encouraged her to have another go at it. One of those was Lab employee Camille Minichino, a physicist and former Lab employee who has written a successful mystery series based on the periodic table of elements.

At a family reunion in the Rockies, Parker’s uncle mentioned that her grandmother had been raised in Leadville and suggested Parker write a book set in that historical mining town. Parker read up on Leadville’s



JACQUELINE MCBRIDE/NEWSLINE

A *Science & Technology Review* writer at the Laboratory by day, Ann Parker burns the midnight oil in the world of mystery writing in her home office at night.

Coming soon to local venues

Parker will be speaking about writing and *Silver Lies* at venues around the Bay Area. Her “hometown party” will be at Goodenough Books in Livermore on Oct. 9 at 7:30 p.m. Go to Parker’s Website at <http://www.annparker.net/> for a complete schedule of appearances and to read excerpts from *Silver Lies*.

history and was hooked. She decided to set her second novel in Leadville and to name her main character after her grandmother, Inez Stannert.

After returning to California, Parker enrolled in a mystery writing class because she’d decided her Leadville story would be a mystery.

“Mysteries have a narrative structure to them that I felt I could learn and put into practice,” she said. “Reading a good mystery is rather like engaging in scientific inquiry. You gather the clues — or data, if you will — and hope that, once you put the pieces together, the answer to the question emerges. In this case, whodunnit.”

It took her until the final day of class to muster the courage to read some of her work out loud, but when she did, the other students applauded.

Next, she joined a local writers group where she regularly shared her work with other members and listened to their criticisms. The other members offered encouragement to keep going, but they also provided

“tough love.”

“Writers read differently from readers,” Parker said. “They look for things like character development and continuity. They give you the critical feedback you need.”

*Silver Lies* is set in a Rocky Mountain boomtown at the height of the 1879-80 silver rush. Every get-rich-quick schemer west of the Mississippi — and those who would prey upon them — has descended upon the town, ready to do whatever it takes to cash in on a once-in-a-lifetime opportunity. Even kill.

In the midst of this maelstrom, saloon keeper Inez Stannert’s husband disappears and their only child is sent back East to be raised by an aunt.

One day, a handsome stranger rides into town. And the killing begins.

“The situation in Leadville reminded me of Silicon Valley during the height of the dot-com frenzy,” Parker

said. “How the possibility of getting rich quickly can make people do things they might never otherwise do.”

Last year, Parker entered *Silver Lies* in the Colorado Gold fiction writers contest, winning the mystery category, and the book was then picked up by mystery publisher Poisoned Pen Press. *Silver Lies* recently garnered a starred review in *Publishers Weekly* magazine, the bible of the industry.

Parker’s advice to budding fiction writers is simple: persevere.

“The process is like climbing a mountain, one step at a time. When you’re at the bottom looking up, you think ‘no way.’ But it’s only one step at a time. You take one step. And then another. Eventually, you get to the top. And the view is beautiful.”

Attention authors

Newsline would like to hear from recently published authors of books, both fiction and non-fiction, for a special book section to be featured a couple times a year. Please send information to or contact Karen Kline at 3-4348 or [kline1@llnl.gov](mailto:kline1@llnl.gov).



JACQUELINE MCBRIDE/NEWSLINE

EPD workshop on homeland security

Federal and state regulatory agencies along with San Mateo and San Francisco county officials participated recently in a workshop conducted by the Environmental Protection Department for the NAI Directorate. The Lab’s Dennis Imbro (left), Biological Aerosol Sentry and Information System (BASIS) project manager, was one of the participants. The workshop was funded by the Department of Homeland Security to develop appropriate plans and procedures for decontamination and remediation efforts after a terrorist biological incident at the San Francisco Airport. Participants will provide feedback that will help in the development of a template for assuring public safety and the efficient recovery of operations at our nation’s major airports. This project is a joint effort between Sandia National Laboratory and LLNL.



# NEWS YOU CAN USE

## Strengths and weakness of distributed computing surveyed

Earlier this year Computation's Integrated Computing and Communication Department (ICCD) surveyed 1,500 randomly selected LLNL employees on their satisfaction with distributed computing services. Distributed computing services were defined to include desktops, e-mail servers, Meeting Maker, local area networks and help desks.

The customer satisfaction survey was conducted by GartnerMeasurement, an independent information technology (IT) benchmark specialist. Feedback from the survey has been very helpful in identifying areas for ICCD to improve customer satisfaction. The purpose of this article is to communicate the feedback we received from Lab computer users, the areas for improvement that were recommended to us by GartnerMeasurement, and our short term action plan in response to the user feedback and the independent consultant's recommendations.

Overall, the survey results were both encouraging and enlightening. Customer satisfaction with IT service qualities including system functionality, system performance, system quality, support availability, support responsiveness and support expertise was rated at 3.96 out of a possible 5. LLNL's score was in the top 13 percent of all scores in Gartner's benchmark database.

Survey respondents rated e-mail, calendaring and help desk services all at above 4.0 in overall satisfaction on a scale of 1 to 5. Encryption and off-site dial-in services received lower satisfaction scores, 3.88 and 3.9 respectively. Although our overall satisfaction scores were well above average, the customer comments identified many areas of improvement. Gartner recommended improvements in the areas of support responsiveness, support availability and support expertise based on the themes expressed in the comments of many of the survey respondents.

ICCD identified several specific actions to



### CIO UPDATE

—BY KIM CUPPS  
COMPUTER SYSTEMS SUPPORT

implement in an effort to improve our performance in each of the areas mentioned above. In August, all computer support units across the Lab began to proactively contact some percentage of their customer base and let them know the status and expected resolution time of their outstanding issues. Not every customer is contacted on every issue in every directorate. However, all directorates will have some customers contacted and this will be prescribed and monitored in each directorate's computer support unit.

In addition, each directorate began using a "30 second survey" on closed tickets. This survey is intended to give users the opportunity to give feedback on whether their particular problem was resolved to their satisfaction. Some directorates are surveying everyone while some directorates survey only a subset of their customers with recently resolved problems.

Some computer support units have extended their hours of coverage in direct response to feedback from the survey. All computer support units have collaborated on the development of a list of computer support FAQs and answers that will be posted on the 4Help Website <http://www.llnl.gov/computing/4help/index.html>. We have also implemented an L-code based search tool on our Website [https://www-iccd.llnl.gov/ICCD\\_CSU\\_Lcodes/Search1.html](https://www-iccd.llnl.gov/ICCD_CSU_Lcodes/Search1.html) to help customers find the phone number of their computer support person. We have created and given a location based flowchart to the 4Help desk support team so that

calls can be routed correctly and appropriately the first time. We will increase our advertising of the 4Help desk for computer support issues. 4Help was very highly rated by those customers that had used it, but too many of those surveyed didn't know how to contact a help desk for computer support. To reach the central computer support desk dial 4-4357 (4 H-E-L-P).

In addition to the immediate actions described above, we have also identified longer term initiatives that will improve overall support to Lab computer users. Several of these longer term initiatives were identified before the Gartner survey and others are a direct result of the survey feedback. One example of a longer term strategy to provide better computer support across LLNL is to use the remedy trouble ticket system on a Lab-wide basis. By using one ticketing system for reporting problems with computers, printers or applications, we can easily move tickets between service providers and get customers helped more quickly and efficiently with just one phone call. The remedy ticket system started a year ago and is in the beginning phases of deployment. It has been rolled out to some AIS application customers and to NAI computer users and support personnel.

Another longer term effort that will help improve the consistency of computer support is the use of a problem resolution knowledge base. We expect to employ a knowledge base with remedy. Initiation of that effort is at least a year away.

In summary, the distributed computing customer satisfaction survey provided excellent targeted feedback that will be used to improve the quality of computer support across the Laboratory. We expect to survey LLNL a year from now to determine whether our efforts to improve have been successful and to gain more insight from our customer base.

## Technical Meeting Calendar

Friday  
26

### CHEMISTRY & MATERIALS SCIENCE, FRONTIERS IN CHEMISTRY & MATERIALS SCIENCE

"Predictive Capabilities for

Strongly Correlated Systems: Spectral Density Functional Theory and its Applications to Plutonium," by Sergej Savrasov, Department of Physics, New Jersey Institute of Technology. 3:30 p.m., Bldg. 235, Gold Room (room 1090). For information on Savrasov and an abstract of his talk, see Website: [http://www.cms.llnl.gov/cms\\_frontiers\\_ext/index.html](http://www.cms.llnl.gov/cms_frontiers_ext/index.html) Contact: Mike Fluss, 3-6665, [fluss1@llnl.gov](mailto:fluss1@llnl.gov), or Kristine Ramirez, 3-4681, [ramirez24@llnl.gov](mailto:ramirez24@llnl.gov).

### INSTITUTE FOR GEOPHYSICS & PLANETARY PHYSICS

"Ultraluminous Infrared Galaxies: Quasars / Ellipticals in Formation?" by Sylvain Veilleux, Cal Tech. Noon, Bldg. 319, room 205. Contact: Wil van Breugel, 2-7195, or Sharon Taberna, 3-6290.

### ENERGETIC MATERIALS CENTER

"Tractable Dynamical Studies of Single and Double Shock Compression," by Evan J. Reed, Physics Department, MIT. 10:30 a.m., Bldg.

155 conference room. Contact: Riad Manaa, 3-8668, or Sue Stacy, 4-2607.

Monday  
29

### INSTITUTE FOR SCIENTIFIC COMPUTING RESEARCH

"A C++ Reflection Library," by Kenneth Chiu, Indiana University. 10 a.m., Bldg. 451, room 1025

(uncleared area). Contacts: Tom Epperly (CASC) 4-3159, or Leslie Bills 3-8927.

Tuesday  
30

### RADIATION DETECTION CENTER

"Neutron Resonance Radiography for Security Applications," by James Hall, 11 a.m., Bldg.

151, room 1207 (uncleared area). Contact: Ron Wurtz, 3-8504, or Christie Shannon, 3-6683.

Wednesday  
1

### MATERIALS RESEARCH INSTITUTE

"Unconventional Superconductivity in CeCoIn5 With Magnetic Texture and Orbital Quantiza-

tion," by Henri Radovan, National High Magnetic Field Laboratory. 3:30 p.m., Bldg. 219, room 163 (uncleared area). Contact: Mike McElfresh, 2-8686, or Jody Quick, 2-0620.

Friday  
3

### ELECTRONICS ENGINEERING

"Distributed Access Control and Policy Management & Security Analysis of Network Protocols," by John C. Mitchell, Stanford

University. 11 a.m., Bldg. 235, room 1090/Gold Room (uncleared area). Contact: Alex Spiridon, 3-3368, or Robin Sachau, 3-5864.

Friday  
24

### CHEMISTRY & MATERIALS SCIENCE, MATERIALS SCIENCE AND TECHNOLOGY DIVISION

"New Insights Into the Liquid Water Surface from X-Ray Spectroscopy of Liquid Microjets," by

Richard J. Saykally, UC Berkeley. 3:30 p.m., Bldg. 235, Gold Room. Coffee and cookies will be served at 3:20 p.m. Contact: Jim Tobin, 2-7247, or Rebecca Browning, 2-5500.

### The deadline for the next Technical Meeting Calendar is noon, Wednesday.

Send your input to [tmc-submit@llnl.gov](mailto:tmc-submit@llnl.gov). For information on electronic mail or the newsgroup [llnl.meeting](mailto:llnl.meeting), contact the registrar at [registrar@llnl.gov](mailto:registrar@llnl.gov).



## AROUND THE LAB



# Symposium links researchers to classroom teachers

More than 120 California science teachers visited LLNL last week to participate in the fourth annual Edward Teller Science & Technology Education Symposium.

During this two-day event, science educators participated in hands-on, professional development workshops taught by Laboratory scientists, toured research facilities, and engaged scientists informally during the "Dinner With a Scientist."

The symposium, sponsored by LLNL's Science and Technology Education Program (STEP), was developed four years ago to build a bridge linking the "Big Science" at LLNL with the science classroom. "Teachers come to the symposium to see and feel science research in action. They look toward cutting-edge research as an important element in shaping their classroom instruction including sparking students' interest in science careers," according to Richard Farnsworth, STEP's manager for Education Outreach Programs.

The symposium offers teachers several topics to study, including biophotonics, biotechnology, optics, radiocarbon dating, water chemistry and radiation science. Each of these tracks includes instruction provided by Laboratory scientists, and innovative teaching materials linked to Laboratory research activities. Teachers take home the



BBRP's Joanna Albala demonstrates a method of separating proteins to Miraposa High School science teacher Tammy Kudela at the biotechnology workshop during last week's Edward Teller Science & Technology Education Symposium.

materials and classroom activities to use in their classrooms.

The instruction and teaching materials developed are aligned with the California science content standards. This connection with the state standards helps the teachers know where this material can fit into their science teaching requirements, and helps them make use of the materials. More than 50 percent of the teachers plan to use their

symposium materials within a month.

"There are many reasons that teachers come to the Laboratory year-after-year for professional development activities," Farnsworth said. "Certainly there is a mystique about visiting Livermore Laboratory that initially draws teachers' curiosity. What keeps teachers returning is the commitment of Lab scientists to share their expertise in support of science education in the classroom."

More than 20 Laboratory scientists contribute directly to developing and teaching the various symposium topics. For example, when asked why she came to the symposium, a teacher pointed to the Symposium instructor, BBRP's Joanna Albala, as the teacher's primary reason.

All of the Lab scientists who volunteer their time at the symposium share a common passion for science research and science education. Teachers can find work-

shops from multiple sources, but at LLNL they learn from the people who are directly involved in the science. The scientists who teach these workshops share their passion for science. Teachers in turn share that same passion with their students.

For information about this year's symposium, check the Web (<http://step.llnl.gov/symposium2003/>)

## Review board looks at research conducted using human subjects

By Anne M. Stark

NEWSLINE STAFF WRITER

Lab researchers in collaboration with a medical institution propose to use a new device to detect malignant tumors in bladder cancer patients. But before one patient can consent, the proposal must first go before the LLNL Institutional Review Board (IRB).

The Institutional Review Board has the responsibility for reviewing and approving all research involving LLNL employees who conduct research using human subjects. That research can consist of a project involving a tissue sample, such as blood or urine, to data collected from a questionnaire, interview or medical record. The human subject can be at LLNL or a collaborating site anywhere in the world.

"IRBs are ethics committees that consist of scientists, non-scientists and local community members who review each human research protocol for risks and benefits to the subjects, as well as compliance with federal regulations," said Andy Wyrobek, chair of the Lab's IRB.

The IRB has the responsibility — mandated by federal regulation — to ensure that all human subjects research is conducted ethically, with minimal risk to the subjects. One of the IRB's ethical concerns is that no human be involved in research without being fully informed and providing consent, even if there is little to no physical risk to the subject. No human research can proceed without prior approval by the IRB. The IRB is responsible for research in all LLNL directorates, programs and locations — not just the Biology and Biotechnology Research Directorate and the Medical



Technologies division of the Physics and Advanced Technologies Directorate.

The IRB has a mandate to educate researchers and management in the regulations and ethical principles governing research with human subjects.

"We are still coming across people that don't know the IRB is out there," said Judy Lairsmith, IRB administrator. "This is an important matter because all projects that involve any human subjects or any kind of human materials regardless of directorate need to receive approval from our office before they begin."

And while the IRB is another level of review that researchers must go through if they are working with human test subjects, the IRB staff is working hard to simplify the process so that it is not perceived as a roadblock by investigators, Lairsmith said.

The full IRB committee meets every one to two months. However, many projects don't have to go before the full board and can receive expedited review within one to two weeks. Some stud-

ies may be exempt from IRB regulations, but the IRB, not the investigator, needs to make that determination.

"We have developed review procedures to streamline the review and approval process," said Bill Nebo, who is a local reverend and serves as a community member on the IRB. "However, we want the researchers to do due diligence in filling out the proper paperwork and complete the required training."

The IRB has the responsibility to protect the rights and welfare of human subjects.

The board will review and approve all research that involves human subjects before the studies begin; ensure human subjects are fully aware and agree to participate in the research; and enforce compliance with federal regulations and orders.

Training is an important part of the review process at LLNL. IRB staff members also have the responsibility to ensure the Laboratory director that human research adheres to federal and state regulations. There is a major national movement to increase training for researchers and senior management in the ethical principles and procedures of the IRB process.

Another one of the important reasons the IRB reviews human subject research is to ensure the local Livermore community that work conducted at the Laboratory is ethical and protects human subjects from harm. "We help maintain the public's trust," Lairsmith said.

For more information or to determine whether a project requires IRB review, contact Lairsmith at [lairsmith1@llnl.gov](mailto:lairsmith1@llnl.gov), 2-9782 or the IRB Web-site at <http://www.llnl.gov/HumanSubjects/>.



AUTOMOBILES

Honda Civic LX ex cond., 4 door, at, ps, pb, amfm, alarm, keyless entry, 89 K mi, \$8900, obo, 925-447-7455

Mitsubishi Eclipse 44k, Pearl Wht, pwr wdw,ddl,str,cd,trailer hitch,exc, cond \$13.500 925-443-3358

1989 - Honda Prelude Si, 5 speed manual, red, 200K miles, runs well, new clutch, average condition. \$1500 925-449-2692

1995 - Ford Taurus, 6 cyl, 4dr GL sedan: AT, PS, PB, PW, PL, AM/FM cass, runs and looks great, 75K miles, \$3K 925-447-8777

5962 - Many VW parts! 1300cc runs, carbs, clutches, cables 70 tranny, 4 lug rims NEW. All for \$500 925-373-7294

1997 - Honda civic,AT,Silver,PW, PL,105K,AM/FM Cass. ,Excellent Cond. \$5500.00 OBO 707-552-8691

1974 - VW Beetle, engine completely rebuilt & brand new, body OK, runs great. \$1050 925-606-1923

1998 - INFINITY I-30 Excell. cond. 69K miles. New tires. Light tan. \$10,750. 925-846-8405

1998 - FORD MUSTANG GT ROUSH edition. 1 of a kind, Roush racing throttle body/exhaust/ground effects/suspension. Leather/Mach60 sound system. 516-9510

1997 - El Dorado, excellent condition, new tires, security system, CD, low miles. Kept in garage. Maintained service dates. 13,500.00 510-537-7222

1980 - Toyota Celica Supra, automatic transmission, loaded, clean, good transportation. \$1,500.00 925-754-5366

2001 - CHEV SUBURBAN LS 2500 4x4. Towing pkg. Low Miles. Ext. Wty. Sunroof. Many extras \$26,500 OBO 209-603-5952

1999 - Mercedes Benz E320, silver w/black interior,comes w/2yr warranty, 27,500 mi., \$29,000 OBO 925-373-8314

1998 - Ford Contour GL, 4 door, PS, PW, A/C, ABS, Auto Trans., 97K miles. New belts, etc. installed in June 03. \$4700.00 925-980-3121

2001 - NISSAN QUEST Minivan. Only 22K Miles, very clean. Auto, V6, PW/PL, VCR, Front/Rear AC. Original Owner. \$16,929 925-980-2174

2000 - Ford Mustang, 3.8 liter. 30k mi. Always garaged well taken care of. CD, alarm, all power, gold ext. gray cloth interior. \$9800 OBO. 925-352-4248

1994 - 1994 Q45 Acura Infinity, 10 CD changer auto sun roof, all accessories, upgraded wheels 120k hiwy miles, excellent cond. \$7400 OBO 415-309-1384

1994 - Honda Accord LX, white, automatic, excellent condition, 111,000 miles. \$4700. 925 449-5088 or 925-455-8304

2003 - Grand Cherokee Laredo SUV 4D 6Cyl.4.0L,Automatic,4 wheel drive,AC,PW,PL, AM/FM,Cassette, Single CD,ABS & more.14K miles asking \$22K OBO. 408-803-4145

1969 - Mustang convertible, 302V8,3speed,deluxe interior,130k original miles,Aqua/white. Runs good.\$6500.00/obo 925-373-0483

1997 - Honda CRV, 4 Wheel drive, fully loaded, many extras, 73,000 miles, \$10,300 or B/O 925-443-5732

1994 - Ford Escort wagon/ manual transmission. Looks and runs good. 30mpg. New clutch. \$2000/obo 925-513-1008

AUTOMOBILE ACCESSORIES

Two 16 inch GM stock chrome rims for 98 Camero. Good condition. \$125/OBO 925-371-0558

Pickup truck storage unit, fits behind seat, multiple compartments, one locking compartment. \$20 925-455-8609

New car/boat battery recharger Austrian Pewag hoop snow chains and one set of standard snow chains-resonably priced 209-835-2416

Steel wheel fits Ford \$20, tire and wheel new 205x75x15 fits Dodge 925-735-6002

VW early 1964 down beetle parts interior exterior engine ie heater boxes handles wings knobs blah blah blah From a 1958 buildup. \$150.00 all. 209-825-0326

BICYCLES

12 speed Mtn Bike, Schwinn Sierra, \$75 925-443-4413

Quintana Roo Tri/Road Bike 58cm Shimano

CLASSIFIED ADS

105, Ultegra parts, Rolf Vector Rims, Speed play pedals, Tri bars and road bars. \$900.00 209-551-5514

2 Kids small Toys-R-Us Very Good condition \$20 each OBO 925-447-2697

BOATS

19.5 ft Wellcraft, cuddy, 225hp, 1979, only 250 hrs, full canvas, tandem. Exc. cruise/ski/fish/dive boat. Garaged. One owner. Exc. cond. \$6,500. 925-634-9976

CAMERAS

8mm Bell Howell projector model 33SR with sound \$60 925-735-6002

ELECTRONIC EQUIPMENT

Apple LaserWriter IINT, works with MAC and PC with WIN98. Low page count and runs great. \$75. 926-361-7111

Wireless mouse, Kensington brand, for PC or Mac. Never opened. \$20. 925-648-0671

Monitor, Sony 17 inch Trinitron Color Multiscan 200ES. Excellent condition. \$75. 925-648-0671

SONY PS2/DVD Game station. Like NEW. Loaded with accessories & 15 Games. \$450 or best offer 926-361-7111

Atari 1040 ST computer, includes monitor, cpu, mouse, extra floppy drive and lots of software \$50 925-443-4413

Sony dual meter tape deck and tapes \$75, computer case \$10 925-735-6002

Notebook Computer DELL Inspiron 4150 1800MHz Ultra-Hi-Res-Screen 512RAM 30GB-HD CDRW-DVD 802.11b 6mo-old Loaded-w-programs \$1300 OBO 707-494-6689

GIVEAWAY

Pool table, upright piano, cab over camper (for full size pickup), Jenn-aire wall oven - 30 inch diameter, telephone poles. 925-449-8487

Stained pine captains bed unit with three drawers and places for two twin mattresses. 925-447-5337

FREE! 18-20(?) cu ft refrigerator. Freezer on top. White. Runs just fine. We combined 2 households into 1; only need 1 frig now. 925-454-8518

Free: Folding ping pong table, good condition (one leg slightly bent); punching bag, excellent condition; batting/pitching net, excellent condition. 925-828-2208

Cyclone fence mesh. 6 ft. high X 27 ft. long. You haul. 925-455-9049

JD needs a home. Male, tabby, 2 yrs., indoor cat, de-clawed, neutered, current on shots. Moving can not take him. 209-839-0872

HOUSEHOLD

Washer and Dryer, in excellent condition \$250 or OBO 209-833-7369

GE (Black) profile build-in double Microwave/Thermal Oven. Brand new at \$1599, never opened. Perfect as a replacement. \$699, what a deal! 926-361-7111

Fainting Couch/Chaise, Plum colored, excellent cond. \$250. Glass coffee table w/verde base, \$80. 925-778-4641

Kitchen table with 6 chairs, good condition, white washed stain. Versatile pedestal oval dimension, 2 leaf extensions. Pictures via email, \$175. 925-964-0534

Antique mahogany secretary: glass-enclosed bookcase above; desk in middle; 4 drawers below. Fine condition. \$800/bo. 925-447-0574

Black leather couch - \$350 or best offer. 2 med. green leather recliners \$350 each or best offer. 925-899-9675

Desk with 4 drawers & matching hutch with bookcase & 3 drawers. White & light yellow for girls room. \$100 obo. 209-836-3041

Queen Serta Mattress, box spring & frame. Good condition. \$50 OBO. 209-836-3041

Amana refrig. Like new. Energy Star. Paid 650.00 asking 400.00. 510-537-7222

Oak computer desk with hutch,\$200. Country style china hutch \$350. Matching table with 6 chairs \$300, both for \$500. 925-978-0808

Oak table, two drawers, size about 33 by 60 by 29 in. \$100 OBO. 925-447-8749

Oak Entertainment Center 69W X 60H X 21D Lots of Storage \$200 925-294-8643

Futon-Queen size, wood frame, like new. \$150.00 or b/o. 510-440-1835

96 quart ice chest from Costco. Great condition. \$60.00 new, \$30.00 your cost. 925-240-7374

Futon and frame, queen size, light wood, good condition, picture available. \$50 OBO. 510-508-5812

Refrigerators! 3.5 cu ft mini, \$45, 19.5 cu ft standard w/top freezer 2 years old, white, \$350, both clean and in good working order. 925-362-8598

GARAGE SALE in LIVERMORE, SATURDAY - 9/27, 8am-4 pm, 5565 Bridgeport Circle, furniture, dresser set, home decor, clothes, toys, misc. items. 925-447-4898

Lazy Boy Recliner and Rocker/Recliner. Light blue fabric. very good condition. U pick up 209-839-0872

Bradford-White 40 gallon natural gas household water heater. Brand new still in sealed box. \$125.00 209-599-4216

Oak Rolltop Desk for Sale. \$100 or B/O. Dimensions 54in. Wide X 45in. High X 24in. Deep. Medium Oak Finish. 925-321-3075

LOST & FOUND

Wedding ring found call and describe to claim. 209-599-4216

MISCELLANEOUS

Oak gun cabinet. Very nice with glass front locking doors and two lockable cabinets. Comes with dehumidifier. \$300.00 obo 925-443-6139

Monitor stand Kensington Spinstation with rotating storage system. Clears up desk clutter. Brand new, still in box. Paid \$40. \$15. 925-648-0671

Portable basketball court, excellent condition, \$50 obo 925-443-4413

Tahitian Noni Juice and Products. Call 925-960-0263

Rubbermaid Plastic Storage Shed. Large size, 5 1/2 ft by 6 ft. Disassembled, but complete. 163 cubic feet of storage. Good condition. \$150. 925-254-7468

Electric motor, 120 vac \$5.00; Flourescent fixture four foot 2-tube 12.00; walkers, \$6.00 each; TV Sony- not cable ready \$10.00 925-447-4841

Antique, Chinese, handknotted rugs: 3 round, ~28in. dia.; 1 rect., 16in.x 19in. Appraised at \$100 - \$200. Selling, \$70 - \$125. 925-447-0574

Beannie Babies Millions of them wide variety some oldies with tags. Cheap 925-447-2697

Japanese Knick knack wooden figures some ivory figures,minature ceramic vases, Sake bamboo cups all from the fifties. Anyone interested? 209-835-2416

File cabinets, tan, 2-drawer, 2 each; Good condition; \$10 for one, \$15 for both 925-455-5863

Steel Wheels with Tires (4), Fits Jeep Cherokee, Grand and Wrangler, 5 X 4 1/2 Bolt Pattern, Goodyear Wrangler 225/75R15, Good Condition, \$20 925-443-3970

Antique Diningroom light. Asking \$15.00. 510-537-7222

Drain pipe full roll \$30, waist lift belt \$12, rec. equip. bowling balls with shoes BO 925-735-6002

Craftsman Shop vac. wet/dry w/accessories. \$30.00 obo 925-240-7374

Computer desk, pull out keyboard tray, drawer, area for monitor. \$25 U pick up. 209-839-0872

4 reserved Cal Bears vs USC Trojan college football game tickets for 9/27, 3:30 pm. Face value \$35.00 ea. 925-709-1794

Frozen Beverage/Margarita Machine Rentals-great for parties, holidays, and special events. Lots of flavors available: non alcoholic and alocholic. 925-337-0802

MOTORCYCLES

1972 - Bulltaco garage sale! Two M-85 Alpina projects. Two engines, frames, swing arms, forks, bodywork and green stickers. \$500 for all. 925-600-1817

1999 - H.D. Springer Softail 6400 Mi. Custom with lots of chrome. \$17,000 OBO. 925-455-9439

See complete classified ad listings at <https://www.ais.llnl.gov/newsline/ads/>

2000 - Honda Nighthawk CB750 700 total miles, Fairing and Saddle Bags \$5500 OBO Chris Carlson 209-836-3069

1998 - Must sell. Suzuki TL1000R Immaculate condition. Yellow/Black. Call for details and/or pictures. Only 7500 miles. Wont last long at \$6,500 OBO. 209-575-2705

2001 - Yamaha YZ426F \$3800obo Call for details, 209-834-1374

MUSIC INSTRUMENTS

Keyboard, brand new, Kensington, comfort type Multimedia. Paid \$40. \$15. 925-648-0671

Fender Strat Guitar with Floyd Rose. Brand new, purple, used only a couple of times. Hard case incl. \$425 O.B.O 510-785-4660

GUITAR, Electric, Johnson, blue, strap and a RMS Amp. 8 inch speaker. This is a perfect starter or student set. Less than two years old. \$190.00 209-825-0326

PETS & SUPPLIES

Chihuahua Puppies Adorable 7wks 1st shots ready in 2 wks 2 males \$300 ea. 209-983-9878

Chihuahua/Dachshund puppies. \$50.00 Call Al or Roberta. 209-823-1664

Dwarf Hamsters - FREE! Very cute and friendly. 2 weeks and 6 weeks old. 209-833-9141

Large Pet Zone Dog House. Great Cond. Has been outside, but never used. retail \$80, sell for \$50. 209-835-2751

JD needs a home. Male, tabby, 2 yrs., indoor, de-clawed, neutered, current on shots. Moving can not take him. 209-839-0872

RECREATION EQUIPMENT

Exercise Bike, Tunturi in good condition \$60.00; Bowling ball, light weight with case \$8.00 925-447-4841

Fishing Reel Diawa Sealine 900H Rock Cod Special\$60.00 707-552-8691

Marcy Weight Bench \$50 925-462-3055

RIDESHARING

Express your commute, call 2-RIDE for more information or visit <http://www-r.llnl.gov/tsm/p>.

Lafayette - LaMorinda Vanpool (also Walnut Creek stop at Rudgear Rd): reclining seats, reading lights, 7:45-4:45, \$105/mo (pretax reduction available) 925-943-6701, ext. 2-3005

Manteca - 9/80s schedule. Rider/Driver needed. Hours 7:00 to 5:00. Many options available. Call to discuss. 209-825-0326, ext. 3-0631

Galt/Lodi/Stockton - Looking to form a 2-4 person carpool with others on the 9/80 AWS. Working hours 7 to 4:45pm. If interested, please call. 209-334-1006, ext. 4-4175

Sonora - Looking to carpool from the Sonora, Columbia, Jamestown area. Hours flexible. 209-588-8733, ext. 4-3919

MANTECA - Rider/Driver needed. Flexible drive schedule. Work hours 7:30 AM to 4:00 PM. 209-823-5593, ext. 3-8539

SHARED HOUSING

Livermore - Rooms for rent 3 miles from LLNL Partially furnished. Females only. No Pets or smoking. \$575/mo, \$500 deposit 925-243-1298

SERVICES

Daycare in Manteca, Mcparland Area, 6 am. to 6pm Monday Thru. Friday 209-239-3797

Need a TUTOR. SRV/USD teacher on child care leave looking for 3rd thru 6th graders. Any subject, taught at Danville residence only. \$50 per hour. 925-964-0534

Need help? yard work,haul away small items,side walk driveway clean up or extra set of hands modesto area. evenings and weekends. 209-529-1961

Distinctive 30s Hollywood style black & white portraiture. Livermore studio or location. lafterhall.com 925-449-0107

CONCRETE-custom, stamped, colored, foundations, restoration, sealing, etc. Over 20 years of experience. Free estimates. Lic.#787092-B 408-806-9816

TO TRADE

Willing to trade my work for your working

commuter car or truck. I can do most handy-man work and physical labor. Weekends only please. 925-449-9096

TRUCKS & TRAILERS

1978 -28ft Winnebago Motorhome,Generator,AC, good condition. \$3900. OBO 925-462-0287

1997 - Dodge 2500 V-10 4x4, club cab, 82k miles, spray bedliner, 5th wheel hitch, tow package, fully loaded, excellent condition. \$12500 925-373-6791

1994 - Ford F150, Eddie Bauer, 8 cylinder, new tires, automatic, air conditioning, CD, black, running boards, excellent condition. 925-736-0960

1977 - Chevy Suburban: 3/4 ton, dual exhaust,tow package includes oil and trans. cooler, automatic, 454 V8,smogged \$2000-B/O 209-823-4054

1978 - Dodge D150 97K miles, 4spd, 225cuin 6 cyc, 8ft bed, shell, minor damage runs good \$1500/OBO 925-447-2697

1983 - StarCraft Starlite, Sleeps 6, Three Burner stove, Sink with pump, New flooring, 2 Batteries. Propane tanks, DC to AC converter, 10 gal. tank. \$900.00 209-892-6814

1980 - to 1998 Camper Shell for F-series longbed. \$250 Bedliner for F-series longbed \$20 209-824-2177

1987 - F-250 XLT 104,000 miles very good condition at,a/c converted to R-134 with new compressor, Extended cab,longbed . \$4500.oo OBO or Trade for ? 209-369-5265

1988 - Toyota pick up, new breakes etc. call for more info. 925-735-6002

1989 - Leer Pickup canopy/shell for full size 8 foot bed. Was on a 1989 Ford Pickup. \$100 209-823-5573

1996 - Mazda B3000 P/U. V6, A/T, A/C, P/S, Custom Rims, XTRA-CAB, Slider, Cassette, 120K miles, Looks nice, Drives well. \$4500.00 obo 925-240-7374

1999 - Chevrolet Suburban 4X4 clean inside & out. White with beige interior.AC,towing pkg. Asking 19K will accept offers. 925-423-8899 209-918-4053

Tow dolly Kartote number 175. Electric brakes, new tires, good condition \$1,095 925-634-4831

1991 - GMC Sierra-3/4 ton.Needs engine work. \$4500.00 OBO 925-449-5648

1989 - Ford F250 XLT Lariat V8. Lots of extras w/ shell. Runs great, good condition. 180,000 miles, newer transmission. \$3700/obo 925-513-1008

VACATION RENTALS

Mountain cabin near Arnold. 4bedr.,2 bath.Near creeks, hiking, lakes. Fully equipped kitchn, wood burning stove, nice deck. 925-245-1114

Soooo cute beach cottage in Santa Cruz. 4 blks to ocean. 2bedr,2bath, sleeps 7-8. Fully equipped kitchen, spa. 925-245-1114

Apache Junction, AZ - RV space in 5-star park. Snowbird retreat for retirees. Available October 2003-April 2004. Call for Details 925-447-4841

SOUTH LAKE TAHOE - 3 Bedroom 2 bath Chalet, remodeled, nicely furnished,All amenities, Close to all Skiing. Off-season rates now. 209-599-4644

North Tahoe City Ski Cabin lease in need of 2-3 new members.(12/1-5/1) 4Bd/1.5bath. Good parking near the Y. 925-829-7481

WANTED

Wanted: Teenager with a clean driving record to pick up children from school and take to sports practices. 1-2 days per week. Needed from the 3-4 p.m. timeframe. Great part-time job. Call 443-3396

2-person canoe to rent or buy. 209-835-4519

Need help moving not incredibly heavy furniture into house in Pleasanton this weekend (27th,28th). Will pay \$100, less than 3hrs! 510-912-6823

Picnic table with benches in good condition. 925-462-8811

Wanted free moving boxes. I can pick them up, so you wont have to hassle with them. Ask for John or Sarena. 925-449-9096

Services and merchandise listed in *Newsline* are not guaranteed. It is up to the buyer to scrutinize services purchased.



## AROUND THE LAB



## Another vintage performance



The annual Vintage Vehicle Show cruised into the Laboratory last week, bringing with it a colorful array of muscle cars, street rods, classic automobiles and more. The winners of this year's awards are: vintage, Karl Krause's 1953 Jaguar; classic, Barbara McDonald's 1956 T-Bird; street rods, Renelda Lechner-Strand's 1936 Ford Tudor; factory muscle, Mike Eberstein's 1966 GTO; sports car, Bruce Court's blue 1964 Triumph; motorcycles, Mark McDaniel's 2003 custom chopper; other vehicles, David Carter's 2003 nostalgia topfuel dragster; under construction: Justin Potts' 1967 Chevelle; kit cars, Frank Bryan's Volks dunebuggy.



*Photos by Jacqueline McBride*



## PROGRAM

*Continued from page 1*

enterprise and IT infrastructure.

Kenneth Neves, LLNL's chief information officer (CIO), will lead the program. Neves will be responsible for strategic/technical planning and portfolio management of institutional IT efforts. The IIT Program will have budget responsibility for a significant portion of G&A and recharge funded efforts in these areas and will report to Deputy Director for Operations Glenn Mara.

Infrastructure and enterprise resource planning activities funded by the IIT Program will be managed through associate program leaders (APLs). The CIO will integrate, coordinate, review and leverage processes and resources across all elements of the program in concert with the APLs, key stakeholders, and a review committee of Senior Management Council members chaired by Mara.

There are a limited number of areas that will be identified in coming weeks that will require the selection of appropriate APLs to aid

the CIO in planning and strategy. The APLs will be funded by their home directorates and have program responsibilities from the IIT Program. APLs may have responsibilities for processes that cross directorate boundaries, creating new opportunities for strategic integration of processes and supporting systems.

For example, an enterprise strategy is already under way through a cooperative initiative with the Administration and Human Resources Directorate examining people data integration and related process. An assessment of our Lab-wide network configuration and future state goals is also under way. While both of these efforts will lead to a strategic vision in each area, they also will give context for tactical plans for nearer term project investments and technology renewal efforts. In the coming year, several other strategic areas will be developed by newly selected APLs in conjunction with the IIT Program Office.

In addition to managing the IIT Program, Neves will continue to be responsible for cyber security, as an APL to the Safeguards and Security Organization. In coming weeks, a more complete description of the program structure

and several program APL announcements will be made.

In general, the IIT program will draw on IT professionals in many directorates, and also provide program input and support for IT professionals and their careers.

"Over the last several months, we have spent significant time and energy constructing what we feel is a very solid, overarching program — one that will bring us closer to a consolidated and institutionally focused information technology program," Mara said. "I look forward to the efficiencies and benefits this new program and direction will bring and expect that Ken and his staff will receive full support as they move forward with these important new challenges."

The IIT Program Office consists of the following staff: Neves; Brenda Turteltaub, deputy CIO; Mark Graff, chief cyber security officer; Frank Papp, NIF CIO; Eric Davies, NAI IT manager; Chuck Athey, SAFE IT manager; Steve Stinson, resource manager; Evelyn Laurant, administrative support; and Jeannette Tootle, administrative support.





# THE BACK PAGE

## OCEAN

Continued from page 1

CO<sub>2</sub> and Ocean pH” appear in the Sept. 25 issue of *Nature*.

Using computer models, Caldeira and Wickett calculated ocean acidification that might occur if CO<sub>2</sub> emissions in the atmosphere from the burning of coal, oil and gas continued in a “business as usual” pathway. They then used a geochemical model to predict maximum ocean chemistry changes over the past several hundred million years. They found that the amount of acidification occurring in the future simulation exceeded any seen in the record of slow geologic change.

LLNL is conducting



UNIVERSITY OF MISSISSIPPI

Continued use of fossil fuels during the next few centuries could increase the acid content of the ocean, harming marine life including coral reefs like the one above.

research to understand how this acidity could be neutralized, with one option using crushed limestone to absorb some of the acid. In addition, Laboratory scientists are studying interactions between the carbon cycle and climate and are leading the effort to develop a more systematic evaluation of climate models.

The Lab is also studying ways of storing fossil fuel CO<sub>2</sub> underground so that it does not contaminate the atmosphere or the oceans, as well as investigating the use of hydrogen, fusion and other approaches as environmentally acceptable energy sources.

This research was funded by the Department of Energy’s Office of Biological and Environmental Research.

## LMC

Continued from page 1

in the Sept. 12 issue of *Science*.

Kem Cook of Livermore’s Institute of Geophysics and Planetary Physics and part of the Massive Compact Halo Objects (MACHO) team, which previously discovered the RR Lyrae stars in the LMC, noted that they are an easily identified tracer of an old, metal-poor population. The LMC is more than 160,000 light-years away from our galaxy.

“The bottom line is that the Large Magellanic Cloud seems to have had a similar early formation history as the Milky Way,” Cook said. “It created

a spherical component that is not rotationally supported, but the stars have high random velocities, like a hot gas.”

Cook along with scientists from Universidad Pontificia Catolica in Chile, the European Southern Observatory, Columbia Astrophysics Laboratory and the Mount Stromlo Observatory at the Australian National University, observed the LMC RR Lyrae stars in January and measured the radial velocity dispersion using the European Southern Observatories VLT.

The large velocity dispersion of the LMC RR Lyrae stars scales to the Milky Way RR Lyrae star’s velocity dispersion and indicates that metal-poor old stars in the LMC are distributed in a halo population.

Models of halo formation by accretion indicate that these old objects formed in small satellite galaxies that were subsequently accreted (eaten up) by the galaxy. Meanwhile, models of halo formation by dissipational collapse indicate that the halo formed rapidly before the disk collapsed. The researchers applied these models to smaller galaxies and observed a halo population in the LMC by its oldest objects.

## REVIEW

Continued from page 1

Laboratory releases unclassified information to intended audiences appropriately and efficiently.

### Under the new approach:

- Authors use a Web-based system to initiate reviews of unclassified documents online, and directorates control the review path based on a new IM policy. The type of information and the audience deter-

mine the rigor of the review. The review focus is on scientific and technical information.

- Directorate reviewers trained by IBIS screen documents for content and sensitive information. When necessary, the reviewers will forward documents electronically for additional institutional reviews (e.g., export control, intellectual property, and patent issues).

To find out more about Information Management check the Web at <http://im.llnl.gov> or in a brochure that will be distributed soon to all employees.



## Compensation hosts brown bags

Compensation will be holding salary review employee brown-bag sessions. Employees are encouraged to attend and ask questions regarding this year’s salary program. The sessions are scheduled as follows:

- Friday, Sept. 26, 11:30 a.m.-1 p.m., Bldg. 543 auditorium.
- Wednesday, Oct. 1, 12-1 p.m., Bldg. 543 auditorium

For questions about any of the sessions, contact Ronda Green, 2-1021.

Newsline  
UC-LLNL  
PO Box 808, L-797  
Livermore, CA 94551-0808